QUERI Quarterly

NEWSLETTER OF THE QUALITY ENHANCEMENT RESEARCH INITIATIVE

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Director's Letter

QUERI's Research and Methodology (R&M) Committee meeting was held in Washington, DC on April 11-12, 2002 to review the progress of the eight QUERI groups and to provide input on the future direction of the program. The R&M Committee is made up of senior VA leaders with experience in research, clinical, operational, and policy issues. The Committee advises me on major policy and programmatic issues that may affect the QUERI program; members also serve as advisors and reviewers for the Strategic and Translation plans that are developed by each of the eight QUERI Coordinating Centers. The Coordinating Centers are responsible for implementation, program coordination, and ongoing management of the QUERI process.

During the review process, the R&M Committee members look to answer several key questions, such as: How is translation facilitating patient outcome and system-wide improvements? This year they also evaluated each group's "tracer finding." This term refers to the main finding(s) or area where each group will be performing ongoing translation. The goal is to be able to "trace" impact (i.e., measure improvement), over time, for a specific translation effort.

The R&M Committee praised QUERI as a program, and the overall accomplishments of the eight

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QUERI-HIV Analyzes Computerized Reminders

In relation to translating research findings into practice, the QUERI-HIV group is evaluating models of data-driven processes to support quality HIV care. One of the strategies being tested involves 9 guideline-based, data-driven clinical reminders that appear on CPRS (VA's medical electronic patient record) screens, which advise providers at the time of the visit whether a particular patient's care is failing to meet best practice standards.

Computer-based clinical reminder systems in healthcare are designed to shape practitioner behavior by reminding them of information about which they are already aware, but might have forgotten or do not consistently apply in practice. By definition, computer-based reminder systems provide information to the practitioner that was not specifically searched for, but do not otherwise perform automated actions or enforce adherence to recommendations. In addition to being perceived by providers as useful, clinical reminders need to be easy to learn and use in order to be effective.

Within the context of a larger QUERI-HIV study, an analysis was conducted by human factors expert, Dr. Emily Patterson of Ohio State University. Dr. Patterson's goal was to identify organizational barriers to implementing and using clinical reminders, as well as to provide short-term and long-term recommendations toward improving their usefulness and usability. Direct observations were made of the entire clinic visit, including:

- physician preparing for the appointment,
- patient assessment,
- briefing the attending physician, and
- documentation after the appointment.

It was observed during this evaluation that several design features of the CPRS system actually reduced the usability of the HIV reminders, thereby making them harder to learn and to use. The displayed "due" clinical reminders could not be resolved through standard techniques. Specifically, either double-clicking or right clicking a reminder offered several options and information, none of which included resolving the reminder so that it was no longer categorized as "due." Commonly, providers at the test sites were observed double-clicking, right clicking, and attempting to solicit the help of others in order to resolve the reminders, but to no avail. All of them eventually gave up and left all "due" reminders unresolved.

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In This Issue

CHF QUERI Coordinated Care Program Reduces Hospital Readmission Rates

Chronic Heart Failure (CHF) QUERI's study "Reducing Readmission Rates in Patients with CHF" is showing promising results. Initial findings show a reduction of hospital readmission rates and costs, and very high patient satisfaction. This study improves CHF care through the Coordinated Care Program (CCP). CCP is composed of three interdependent components:

- Readiness for discharge criteria,
- Patient and caregiver education, and
- Rigorous outpatient follow-up.

These three components are best practices that the CHF QUERI team developed based on an extensive review of the literature and close collaboration with practitioners from the study sites.

The *readiness for discharge criteria* are aspects of care that should be met before a patient with chronic heart failure is discharged from the hospital. These criteria include: 1) reversible causes of heart failure are treated; 2) exacerbating causes are corrected, if possible; 3) heart congestion is relieved; 4) an oral drug regimen is established; 5) plans for home care are made, if needed; 6) written information is prepared for patients; 7) barriers to compliance are determined; and 8) patient education is initiated and plans are made for continuation after discharge. It is also essential that the *patient and caregiver education* include comprehensive information regarding the warning signs of diet and weight gain due to volume overload. *Rigorous outpatient follow-up* should consist of a flexible schedule of visits over approximately a six-month period that is tailored to the patients' needs.

To aid the practitioners in the implementation of the Coordinated Care Program at their own sites, the CHF QUERI team developed a Toolbox that includes suggested criteria for clinical stability, medication recommendations, and CPRS templates. Teams of practitioners from participating sites also attended a conference given by CHF QUERI that provided awareness of the need to improve CHF care, in addition to training on the implementation of the Coordinated Care Program.

The CHF QUERI team monitors and evaluates the progress of the participating sites. In doing so, the team can work with the sites to identify barriers and work together to overcome those barriers. The close communication and monitoring highlights practices that work well, which are then disseminated to the rest of the sites. Factors that facilitate translation include: strong support from all levels of management; and a well-trained multi-disciplinary team of practitioners who think creatively about continuous improvement, have excellent interpersonal skills, and know both the formal and informal policies and procedures.

Thus far, preliminary findings of this study show a reduction of readmission rates that resulted in considerable cost savings. Fourteen-day readmission rates went from an 11%-19% range to a 0-7% range. This reduction in readmission rates translates to a potential annual savings of more than one million dollars for the four participating sites. In addition, patient satisfaction was consistently very high. Of the patients who completed the study, all indicated that they were much more satisfied with the care they received during the three months they participated in the study than with the care they received prior to their enrollment in the study.

Mary York, PhD
Executive Committee Member
Translation Coordinator
CHF QUERI

** For additional information regarding CHF QUERI and the practitioners, Toolbox, templates, and patient education, please visit their website at: http://www.hsrd.houston.med.va.gov/chfqueri/*

QUERI Quarterly is a quarterly publication of the Office of Research and Development's Health Services Research and Development Service. This newsletter discusses important issues and findings regarding the Quality Enhancement Research Initiative. QUERI focuses on eight conditions due to their high volume and/or high risk among VA patients: colorectal cancer, chronic heart failure, diabetes, HIV/AIDS, ischemic heart failure, mental health, spinal cord injury, and substance abuse. *QUERI Quarterly* is available on the web at http://www.hsrd.research.va.gov/publications/queri_quarterly/
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Diabetes Quality Measurement:
Surveys, Medical Records, and Automated Data

QUERI-Diabetes Mellitus (DM) recently completed a study comparing methods for measuring quality of care for veterans with diabetes. Diabetes is a prevalent condition among veterans. Medical abstractors regularly collect information on diabetes care from patient medical records to assess the quality of care provided to veterans with this condition. However, chart abstraction is very expensive. QUERI-DM sought to learn how other kinds of information, such as electronically stored information and patient surveys, might be used for quality assessment. The study compared diabetic quality measures derived from automated data, medical record reviews, and patient surveys.

Medical records of over 1000 patients from four VISNs were reviewed for diabetes quality indicators. Automated data including laboratory tests and results, medication use, and blood pressure were obtained from a central VHA diabetes registry.

Survey findings show that veterans with diabetes reported relatively poor health, significant limitations of activity, and a high burden of illness. Despite this, the majority of respondents reported appropriate process of care. For example,

- 84% received foot exams,
- 79% had eye screenings,
- 71% reported being counseled about aspirin use, and 66% were taking daily aspirin,
- 64% percent felt their overall care was excellent or very good, and
- 85% would recommend their provider to others.

However, only about 40 percent felt that their providers offered them choices in their medical care – all or most of the time.

For process of care measures (e.g., LDL cholesterol measured, A1c measured), automated data compared to medical record review tended to underestimate the success rate for tests being completed (e.g., 68% vs. 78% for LDL measured; 79% vs. 84% for A1c measured). However, comparisons of automated data and medical record data showed very similar results for intermediate outcomes (e.g., 76% vs. 79% for LDL<130; 88% vs. 86% for A1c<9.5%).

The Veterans Health Administration's (VHA) information technology allows capture and sharing of information and integrates a uniform electronic medical record with extractable fields (such as for blood pressure). This offers great potential for conducting some quality assessment and improvement activities without medical record review. However, at this time there appears to be incomplete reporting of clinical data in the automated data systems.

QUERI-DM identified a number of issues with automated data that may lead to incomplete data capture. They include: 1) variable names for clinical data elements can differ at the local level (e.g., HbA1c vs. A1c); 2) extracting required data from local facilities is not fully automated and requires a number of different software routines, so retrieving data from local sites is still relatively labor intensive and may be prone to error; 3) patients may receive some care from other providers, thus a test or procedure result may be noted in the medical record but is missing in automated data; and 4) extractable fields in the VHA electronic medical record allow for entering clinical information, but require human data entry so that these fields may be incomplete, while lab information is entered automatically.

Intermediate outcome measures, based on automated data, demonstrated high reliability, so that such data may be useful for quality assessment and improvement activities in "real time." On the other hand, before automated data can be relied upon for monitoring quality performance and improvement by large multi-site healthcare organizations systems, a number of issues must be addressed, including enhancement of data entry and data capture in centralized databases.

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For more information about QUERI-DM, visit their website at http://www.hsrd.ann-arbor.med.va.gov/QUERI-DM/QUERI-DM.htm.

Submissions

QUERI Quarterly is glad to accept submissions for publication consideration. Please submit articles, updates or other information of interest to our readers by **Friday, August 2, 2002** for publication in our September 2002 issue. Submit to Diane Hanks at diane.hanks@med.va.gov.

Computerized Reminders

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Eighteen priority recommendations were generated from these observations and interviews. Below are the top three problems that were identified, along with Dr. Patterson's recommended actions to be taken:

- Reminders are difficult to "resolve;" adding a quick temporary "disable" function would allow a provider to come back to the task without forgetting it.
- Ordering new medications satisfied the intent of a particular reminder, but did not resolve it. An "appropriate medication prescribed" option should be added to allow a provider to resolve the identified problem.
- A distinction should be made between reminders that have not been acted upon and those that have, and whether orders have been made, labs drawn, or results received.

There are several important implications of these findings. If a task is difficult to accomplish because of poor usability, the person with more training – such as a case manager, physician's assistant, or nurse practitioner – might take on resolving the clinical reminders for the residents. Alternatively, those same persons may take it upon themselves to train residents in how to use the software and encourage its use in order to avoid adding this task to their workload. This means that resolving the reminders will be done at a different time from when the decision-making occurs. This goes against the argument for real-time reminders being more useful than non-real-time reminders because resolving them will be queued up as a task done in bulk, like paperwork, rather than in real-time, and in the presence of the patient. If this is the case, it will become harder to know that the reminders were resolved for the right reason.

In this study, clinical reminders let providers know when it is appropriate to:

- Consider HAART (highly active antiretroviral therapy)
- Recommend PCP prophylaxis and/or MAC prophylaxis (both are AIDS-defining infections)
- Monitor CD4+ T-cell counts, viral load, and/or lipid panels at recommended intervals
- Evaluate toxoplasma and hepatitis A, B and C titers, and
- Assess VDRL status

For more information about QUERI-HIV contact Candice Bowman, PhD, RN, at (858) 552-4325 or by e-mail at Candice.Bowman@med.va.gov. You may also visit their website at http//va-queri-hiv.ucsd.edu/

The Cost of VA Health Care

VA's Health Economics Resource Center (HERC) has released files with encounter-level estimates of the cost of all VA care provided since October 1, 1997. The estimates are based on VA cost data and non-VA measures of relative value. Every inpatient stay or outpatient visit has a relative value estimate, as well as a national and a local cost estimate. "This is the first comprehensive set of estimates of the cost of VA hospital stays and outpatient visits," said HERC Director Paul Barnett. "We've designed these files so that they may be easily combined with demographic and clinical data in the VA discharge and outpatient care files."

Funded by the Health Services Research and Development Service, HERC's mission is to improve the quality of health economics research in VA. Guides for using HERC average cost data sets and the DSS national extracts are available at HERC's web site, http://www.herc.research.med.va.gov. For further information, the HERC help desk can be reached by phone at (650) 617-2630 or by e-mail at herc@med.va.gov.

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QUERI groups. Dr. Randy Petzel commented, "…I am impressed with the great progress made by this [QUERI] program and the groups who [understand] translation and are able to work with multi-faceted organizational factors." Specific programmatic advice for 2002-2003 was to continue integration with the rest of VA, expand the number of QUERI groups for key topics of relevance to veterans, evolve partnerships with outside groups—such as the National Institutes of Health, and, especially, to grow capacity for translation at the local level.

I want to thank all of the members of the R&M Committee who assisted the QUERI groups in evaluating their progress and developing action steps that move this important initiative forward.

John G. Demakis, MD
Director, HSR&D